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# CURRENT LITERATURE

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## BOOK REVIEWS

### **Intracellular pangenesis**

DEVRIES'S *Intracellulare Pangenesis*, originally published in German in 1889, occupies an important position in the history of modern biology. It represents the fundamental speculations which guided the author in the experiments afterward reported in his great work *Die Mutationstheorie*, and it was also the first discussion presenting approximately the modern conception of unit characters.

Few scientists at the present time can accept in detail the scheme by which DEVRIES at that time explained the facts of heredity, but all appreciate the great value of this book in directing work along experimental lines, first by DEVRIES himself, and after him by a great number of both botanists and zoologists. While this work can scarcely be considered as having more than a historical significance at the present time, the triumph of the general principles introduced by it impresses the propriety of an English translation at the present time. This translation<sup>1</sup> has been satisfactorily made by GAGER. The translator points out in a brief preface the genetic relationship of "Intracellular pangenesis" to scientific conceptions now fully established upon an experimental basis.

A brief "Foreword" by STRASBURGER acknowledges his own indebtedness to the stimulating influence of DEVRIES, and observes that in a number of instances the speculative writings of that author both in *Intracellulare Pangenesis* and in the appended essay on *Befruchtung und Bastardirung* have proved prophetic of phenomena afterward actually found.

The translator has added occasional brief footnotes to explain certain allusions made by the author, or to call attention to more recent discoveries bearing upon the points under discussion. Several paragraphs have been omitted because there is no longer any necessity for speculation regarding the subject matter of those paragraphs. Purely as a historical work, the omission of these paragraphs seems to the reviewer to have been a mistake. It was impossible as well as undesirable to make the book contemporary science, though the desire to approximate this was undoubtedly the motive of the author and translator in making the omissions from the original work. Taking the place of these omitted paragraphs, the subjects involved in them are

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<sup>1</sup> DEVRIES, H., *Intracellular pangenesis*, including a paper on fertilization and hybridization. Translated from the German by C. STUART GAGER. pp. xiii+270. Chicago: The Open Court Publishing Co. 1910.

treated in a paper on fertilization and hybridization read in Haarlem, Holland, by the same author in 1903. This essay is also modified from the original, being somewhat extended and brought more nearly down to date. It occupies the last 40 pages of the book, and presents a simple and interesting statement of the relation between modern cytological and genetic investigations as bearing upon the problem of unit characters.

Even in the brief time since this paper was revised for incorporation into this book, some of its subject matter has been given interpretations which render it unavailable for the particular application made, so that in at least one point it would need to be fundamentally rewritten. I refer particularly to the fact that the behavior of *Cytisus Adami* is taken as one of the clearest and simplest examples for demonstrating the existence of unit characters. Owing to the work of WINKLER and BAUR,<sup>2</sup> we now have a conception of this and other so-called graft hybrids which rules them out as examples of segregating unit characters.

Despite the fact that the book is neither strictly modern nor perfectly historical, it will be read with much profit by those interested in the subject of heredity and evolution, and all such will appreciate the work of GAGER in making this classic piece of speculation available to English readers.—GEO. H. SHULL.

#### A plant physiology

A treatise on plant physiology written by LECLERC DU SABLON<sup>3</sup> has many features of interest. One is impressed by the definite, concrete treatment of the subject. When a topic is considered, a great worker in that line is selected and his methods and results clearly stated. This leaves the student with a clear idea of the results, and how they were obtained. This method certainly has advantages over the usually concise but rather abstract statements for beginning students, and it might be desirable to have such a treatise in English. However, a statement of this kind must necessarily have its shortcomings, and they are unnecessarily increased in this work. It must omit many contributions, and this is shown in the present work by the preponderance of attention given to French investigators. French students using the text would probably conclude that France has been leading in plant physiology, and that SABLON is by no means the least of the producers.

The book can in no sense be considered critical. This objection the author answers by saying that he intentionally avoids unsettled questions and devotes the space to the well established phases of the subject. One is forced to believe that he could have given a more modern statement without running

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<sup>2</sup> For an excellent review of the recent work on graft hybrids and chimeras, see BOTANICAL GAZETTE for February 1911.

<sup>3</sup> SABLON, LECLERC DU, *Traité du physiologie végétale et agricole*. vi+610. Paris: J. B. Bailliere et Fils. 1911.